**Student Response Systems: Clickers**

**Essential Questions**

*Adams and Howard*

1. What are the two types of SRS? Which is better? More expensive?

Infrared: more affordable but more limited in types of answers

Radio: don’t need line of sight and more answer options

2. The instant feedback provided by SRS allows students to \_be engaged and gauge their understanding and can ask questions\_\_\_\_\_. Likewise, the instant feedback allows teachers to \_evaluate student understanding adjust instruction\_\_.

3. List four advantages of using SRS in the classroom.

* Instant feedback/Displayed immediately
* Teachers can adjust their instruction based on feedback
* Increased student engagement
* Stored for later use by educators
* Increased student achievement
* Checking for student understanding
* Assessing
* Gathering student feedback
* Student enjoy
* Allows quiet students opportunity to participate, provide feedback (no fear of being criticized for wrong answer)
* Efficient, time saving
* Can be used to generate discussion

4. List three disadvantages of SRS.

* Novelty effect
* Time to learn how to use
* Expensive
* No open-ended questions or essay type answers

Ullman: *Product Guide*

* List one positive mentioned in this article that is also mentioned in the Adams and Howard Article.

1. Instant feedback
2. Gauge student understanding
3. Time saving
4. Increased student achievement
5. Engagement
6. Anonymity

* List one negative mentioned in this article that is also mentioned in the Adams and Howard Article.

1. Lots of training needed
2. Time consuming
3. Lack of flexibility

* List one positive mentioned in this article that is not mentioned in the Adams and Howard Article.

1. Environmentally friendly
2. Little training needed
3. Easy to use

* List one negative mentioned in this article that is not mentioned in the Adams and Howard Article.

1. Crashes

*Key and LaSage*

1. List 5 benefits of using SRS cited in this article.

* Interaction
* Engagement
* Attention
* Increased attendance
* Stimulate peer and class discussion
* Improved instruction based on feedback
* Improved learning performance
* Easy to learn and use
* Anonymity
* Increased participation
* Increased interest
* Greater articulation of student thinking
* More probing questions
* Active learning
* Improved quality and quantity of class discussions when used with peer instruction
* Modifying instruction
* Improved depth of understanding
* Formative instruction

2. Explain what is meant by "peer instruction".

Occurs when a teacher presents a question using an SRS, collects student responses and present response for the class but does not provide the correct answer. Instead the class is instructed to discuss possible solution in pairs and then students are provided with the opportunity to vote a second time. After the second vote, the issues are resolved through class discussion and clarification from the instructor.

3. Organize the disadvantages listed in to what you consider to be most to least important.

* Forget to bring them to class
* Technological problems
* Difficult for teachers to adjust instruction “on the fly”
* Less content is addressed when using SRS
* Time consuming (than just giving a quiz, also have to hand out clickers and set up)
* Difficult to write good questions
* Students dominate discussions
* Distract from class
* Students don’t like being monitored by SRS (“Big Brother”)
* Seeing that they were the only one who got it wrong makes some student uncomfortable